

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-16 (previously cancelled)

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Claim 17 (currently amended): In a data communication network, a method for selecting protectable paths through a network, said method comprising:

identifying a plurality of shortest paths having equal costs from a first node to a second node;

selecting one of said plurality of shortest paths that has an edge disjoint alternate path and is thus protectable by examining a parent node of each of said plurality of shortest paths and identifying said selected shortest path to be one for which the parent node has not been marked, indicating that there is not a plurality of equal cost shortest paths to said parent node from said first node, said parent node being a last node before said second node on any selected path;

marking said second node ~~as having to indicate~~ a plurality of shortest paths having equal costs from said first node to said second node; and

adding one or more new paths to ~~said~~ a set of paths in said network, said new paths extending from said first node through said second node to one or more destination nodes adjacent to said second node.

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Claim 18-19 (cancelled)

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Claim 20 (currently amended): The method of claim ~~19~~ 17 further comprising:  
using said set of paths in computation of a shortest path tree.

Claim 21 (currently amended): The method of claim 17 wherein said each of said shortest paths comprises either an individual path segment or a plurality of contiguous path segments, each of said path segments comprises an individual link or a plurality of contiguous links, and each of said ~~link~~ links comprises a communications channel between two adjacent nodes.

Claim 22 (previously presented): The method of claim 17 wherein said equal costs are determined in accordance with a cost metric defined for said links of said network.

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cont  
Claim 23 (previously presented): The method of claim 17 wherein at least one of said plurality of shortest paths was found in preceding computations in developing a shortest path tree.

Claim 24 (currently amended): In a data communication network, a computer program product for selecting protectable paths through a network, said computer program product comprising:

code that identifies a plurality of shortest paths having equal costs from a first node to a second node;

code that selects one of said plurality of shortest paths that has an edge disjoint alternate path and is thus protectable by examining a parent node of each of said plurality of shortest paths and identifying said selected shortest path to be one for which the parent node has not been marked, indicating that there is not a plurality of equal cost shortest paths to said parent node from said first node, said parent node being a last node before said second node on any selected path;

code that marks said second node ~~as having~~ to indicate a plurality of equal cost shortest paths ~~having equal costs~~ from said first node to said second node;

code that adds one or more new paths to ~~said~~ a set of paths in said network, said new paths extending from said first node through said second node to one or more destination nodes adjacent to said second node; and

a computer-readable storage medium that stores the codes.

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Claim 25-26 (cancelled)

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Claim 27 (currently amended): The computer program product of claim ~~26~~ 25 further comprising:

code that uses said set of paths in computation of a shortest path tree.

Claim 28 (previously presented): The computer program product of claim 24 wherein each of said shortest paths comprises either an individual path segment or a plurality of contiguous path segments, each of said path segments comprises an individual link or a plurality of contiguous links, and each of said links comprises a communications channel between two adjacent nodes.

Claim 29 (previously presented): The computer program product of claim 24 wherein said equal costs are determined in accordance with a cost metric defined for said links of said network.

Claim 30 (previously presented): The computer program product of claim 24 wherein at least one of said plurality of shortest paths was found in preceding computations in developing a shortest path tree.

Claim 31 (currently amended): In a data communication network, apparatus for selecting protectable paths through a network, said apparatus comprising:

means for identifying a plurality of shortest paths having equal costs from a first node to a second node;

means for selecting one of said plurality of shortest paths that has an edge disjoint alternate path and is thus protectable by examining a parent node of each of said plurality of shortest paths and identifying said selected shortest path to be one for which the parent node has not been marked, indicating that there is not a plurality of equal cost shortest paths to said parent node from said first node, said parent node being a last node before said second node on any selected path;

means for marking said second node ~~as having~~ to indicate a plurality of equal cost shortest paths from said first node to said second node ~~having equal costs~~; and

means for adding one or more new paths to ~~said~~ a set of paths in said network, said new paths extending from said first node through said second node to one or more destination nodes adjacent to said second node.

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Claim 32-33 (cancelled)

Claim 34 (currently amended): The apparatus of claim ~~33~~ 31 further comprising:  
means for using said set of paths in computation of a shortest path tree.

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Claim 35 (currently amended): The apparatus of claim 31 wherein said each of said shortest paths comprises either an individual path segment or a plurality of contiguous path segments, each of said path segments comprises an individual link or a plurality of contiguous links, and each of said ~~link~~ links comprises a communications channel between two adjacent nodes.

Claim 36 (previously presented): The apparatus of claim 31 wherein said equal costs are determined in accordance with a cost metric defined for said links of said network.

Claim 37 (previously presented): The apparatus of claim 31 wherein at least one of said plurality of shortest paths was found in preceding computations in developing a shortest path tree.

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